

Dear Jack,

I thank you for your letter dated the 28th May to which I have replied by cable to the effect that it was difficult to give answers either to this letter or your other letter by cable but herewith now are our comments regarding the problem which you have on the alarm signal on the present equipments :-

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The system as it is at present will only operate over one complete cycle of the counter. The point at which the cycle starts and stops can fairly easily be changed. If it is required that the cycle should start at 000,000 and finish at 999998 (which seems to be your requirement) then the wiring changes required can be found in publication P8P160(3). Part 3 Section 6 Fig. 3. The wiring between the dec/ter converter in position 23, the decade in position 25 and the ternary check in position 29 should be changed to correspond with this diagram. The connections would then be as in the schematic Part 3 Section 5 Fig. 6. The wires which require to be changed are the 0,1 and 2 inputs to the last dec/ter converter (This is on the Ternary Check circuit board), and also the 0 to 9 inputs to this board.

These changes are not recommended because on setting datum or returning to datum, any small movement of the table causing the count to be 999998 would operate the fault alarm. It was for this reason that the start of the ternary check cycle was set to 900,000.

Originally we were supplying the equipment with decades fitted all through (i.e. decades instead of pentades in the first stage.)
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One of the functions of the ternary compensator is to correct the ternary counter at the start and finish of each cycle. With decades all through it is possible to comb through any number of cycles without operating the alarm. When pentades are fitted instead of decades, then a different type of correction is required.

We do not have a standard circuit board to do this correction but it is possible to make one. It would replace the present ternary compensator but would be more complicated. It would however, be the solution to your problem, as the fault system would then operate over any number of counting cycles.

It is a little difficult to give an absolutely definite price at the moment of the cost of this operation, as you can appreciate these boards are not yet designed, however, comparing their likely content of components as opposed to other boards we would estimate the cost would be of the order per board and there would of course be one circuit board per axis.

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We would certainly like if at all possible to recover this cost but in view of the troubles there have been with this equipment we would be prepared on a point of building-up further goodwill to ignore it if you consider that this would be a good thing to do.

On the question of making these boards ready we could obviously make the first one in the laboratory, but these would be wired boards. After we put them through Production then we would almost certainly want them to be Printed Circuit boards, in the first case the wired boards would take about four weeks; the Printed Circuit boards would take 3/4 months.

With this information in mind I leave it entirely to yourself as to how you approach the customer on the question of any cost recovery.

I hope this clarified the situation for you. Please let me know if you would like any further assistance.

Yours sincerely,



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